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THE STORY OF THE ASPEN

BY ENOS MILLS

ONE day, in the mountains of Colorado, I came upon an imposing aspen forest hidden in the depths of primeval spruce woods. Quivering light-green leaves crowded all around, while in the background the inky blackness of the spruces fell away, motionless and solemn.

How came the aspen growth to win and hold a place in this great expanse of old spruce woods; and how old were these aspens? I thought that the trees themselves might answer my questions, and they did.

Fires frequently start a succession of trees or a rotation of forest species in the woodland. The opening in the forest occupied by these aspens had been made by fire. A record of it was burned into the annual rings of a number of trees in the front ranks of the surrounding spruces. This fire-scar record was overgrown by sixty-three annual rings. Among the crags, in the heart of the aspens, were scattered spruces which were more than three hundred years of age. Four of these ancient trees also had fire-scars sixty-three years old. The annual rings in a number of aspens were counted; a majority of these showed sixty-two rings; none showed more than this number. Evidently, then, this aspen forest started in the burned opening immediately after the fire sixty-three years ago; probably from both seeds and sprouts.

The aspens were nearly mature, and apparently of one age. Their complete possession of the spot was about to be lost to young firs and spruces that were growing thickly beneath. In a short time the firs and spruces would outgrow, overtower, and suppress the trees with quaking leaves. How would they do this? Why does nature supplant one forest with another of different species? In the forest world, this is an interesting feature of the struggle for existence.

Wander where you will, the presence of an extensive aspen forest is almost conclusive evidence of a comparatively recent forest fire. Though areas of forest are also destroyed by insects, or cleared by man, both these agencies leave a scattering of trees in possession. But fire commonly kills all trees,

consumes all the grass and the trash that would prevent seeds from reaching the earth. Thus, a forest fire makes it possible for the aspen to seed and possess the area.

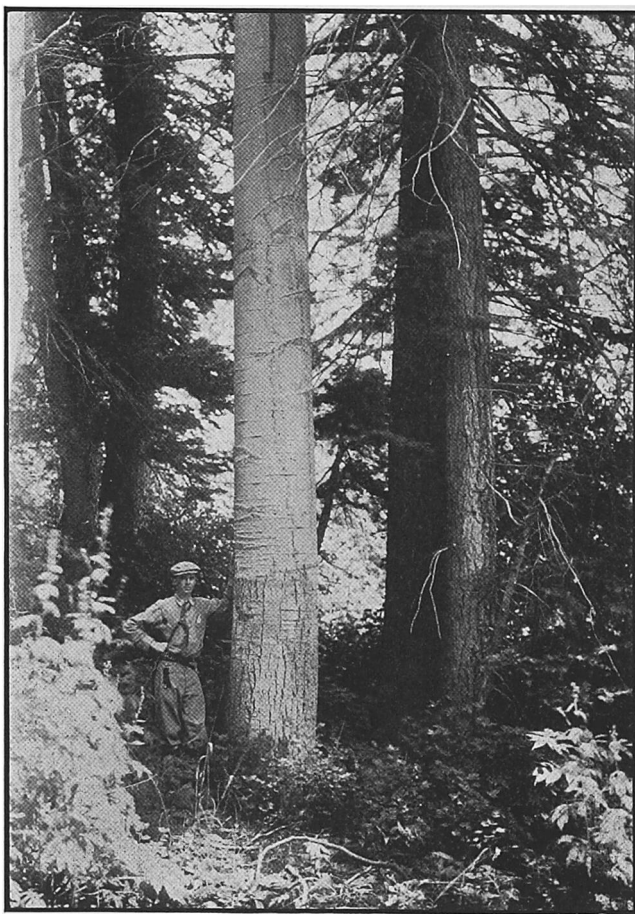
The aspen demands light. It can not thrive in the shade of other trees. But the young of many kinds of trees, as we have seen by the spruces and firs, thrive in the shade of the aspen. By and by the other trees so shaded and nursed grow taller than the aspen, and in a short time they smother it and take its territory. Thus pioneering is largely the lot of this tree. It makes possible and prepares for the coming and the long stay of other kinds of

trees. It is unexcelled in its capacity for seizing new territory, and the entire forest world probably does not furnish a greater leader and colonizer than the aspen. Many a monarch oak, veteran spruce or pine, was nursed in an aspen grove. Numerous forests vast and grand were started in a sheltered garden upon whose soil danced the merry lights and shadows of quaking leaves.

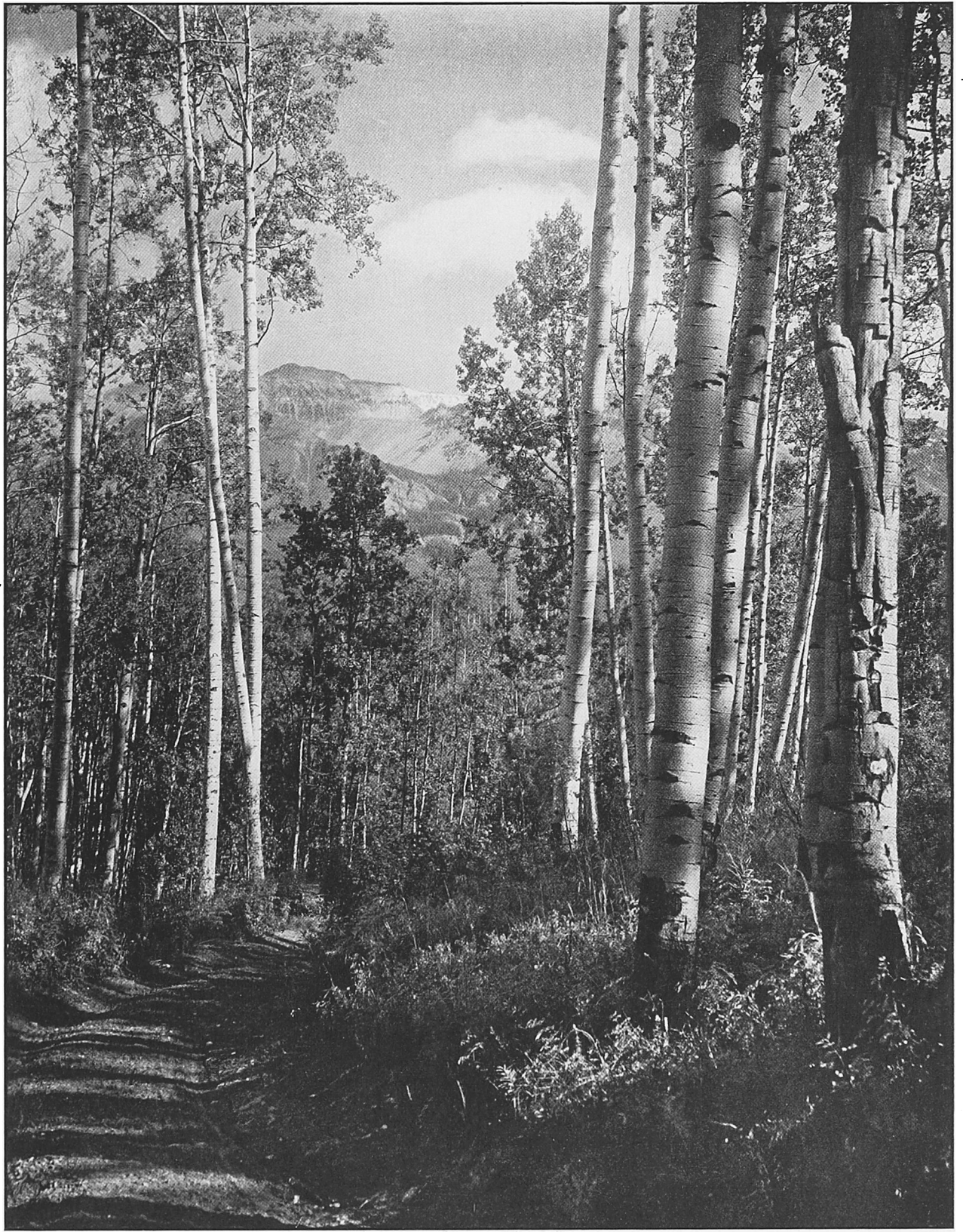
Only a few tree species are well equipped for colonizing. Some have a scanty seed crop; others do not bear annually; numerous species have a heavy seed crop but lack speedy transportation facilities; and many kinds produce seeds not fitted for new fields, and cannot flourish in frontier conditions. The young of most tree species

require protection from the wind, from sudden changes of temperature, and from sun glare. Indeed, the conditions that prevail in unsheltered openings are deadly for most kinds of young trees; but these conditions are favorable for the aspen.

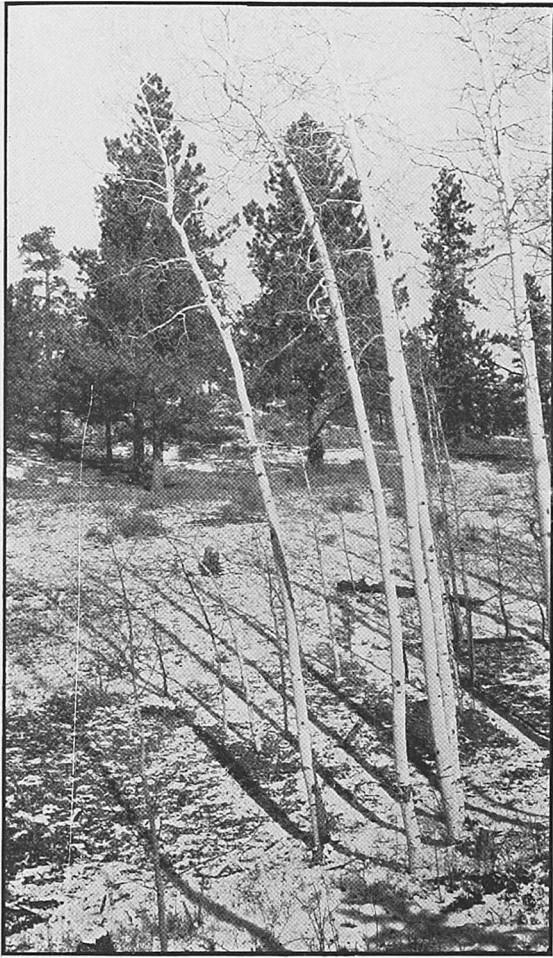
Though aggressive, this tree is short-lived. A few specimens may live through a hundred years; many mature in less than fifty; and the allotted time may be given as threescore and ten. Though the aspen will long endure unfavorable environment, its constitution is so tender that it is easily killed by fire, storm, or insects, and quickly succumbs to injuries. This, however, does not refer to the root, which will send up new sprouts to replace the former trunk.



IN THE EDGE OF AN OLD ASPEN GARDEN



A MAGNIFICENT ASPEN FOREST IN THE ROCKY MOUNTAINS



MEN AND MAIDENS

The aspen lives in the lowlands, climbs the heights to 12,000 feet, accompanies long streams from source to sea, encircles lakes, dots swamps, and has small holdings everywhere except in deserts. From these countless stations it sows seeds like a spendthrift; early each spring they fill the four winds thick as snowflakes. As the seeds are of brief vitality, they must quickly find a sprouting place or they will perish. Each tiny seed, light as air, is set afloat in a fluff of fine cotton. During a calm day these seeds sometimes fill the sky thickly as stars. Eagerly they go away with the wind, across streams and lakes, over forests and mountain ranges, seeking an early rooting place. They are sent forth to find and forest every opening in the woods burned by autumn fires or cleared by winter snowslides. The kind of opening in which they are most likely to alight is one made by fire; such a cleared area, fresh with potash and ashes, is ideal for their growth. The aspen is ready, however, for any offered sprouting place. If its station is swept away by fire or snow, the roots, safe in the moist earth, at once burst into life and again bring back the forest.

Seeds of all growths are waiting for opportunity. Unexpectedly an opening is made, and instantly grass, flowers, shrubs, aspen and other trees fling their seed hosts into it to contend for its possession.

The successful competitor may be in part selected by chance, but the winning kind must arrive early, take root promptly, and then hang on.

Aspen stands commonly are not crowded, and the sheltered soil spaces between the trees are ideal for undergrowths. Many an aspen grove is a luxuriant wild garden. Green grasses flourish, and tall wild flowers crowd in brilliant bloom among the white-barked trunks. Columbines, blue gentians, white Mariposa lilies, geraniums, and fireweed give color to such a garden.

The aspen probably is the most widely distributed tree in the world. The vast territory watched over by it, its resourcefulness, and its incessant territorial triumphs, make this tree appear almost an intelligent being. From the arctic circle, it extends around the world in a belt from 4,000 to 5,000 miles wide. It flutters its foliage among the flags of a dozen nations; speaks its universal tongue among a score of peoples; and in autumn its golden banners encircle the globe and adorn nearly one-half the earth.

In a few localities the aspen holds continuous possession of its territory for centuries. After a fire, though every tree and seed within miles be destroyed, the aspen will triumph through sprout growth, which appears in the ashen scene as if by enchantment. A few scattered roots may start a growth that quickly will expand into a forest. The aspen is a very rapid grower, and its long roots reach out toward every point of the compass. A sprout ordinarily arises from the outer end of each of these roots, and each sprout becomes a tree, in turn producing roots, sprouts, and trees. Even a single aspen root, by such a process of steady expanding and multiplying, in a comparatively short time may grow into a grove or found a forest. Again and again the eager, helpful aspen thus arises from its ashes and restores its garden; and it may hold its old home for ages. In places with wet, rich soil the aspen may even keep out invaders of other species and hold on. There are stretches at timber line, the upper limits of tree growth on high mountains, in which it successfully competes with other species and permanently holds its territory.

At timber line I have measured healthy dwarfs that were less than an inch in diameter and not two feet tall, though they were from thirty to fifty years of age. The largest aspen I ever measured was 37



BEAVER-FELLED ASPENS

inches in diameter and one hundred thirty-four feet high. It stood in a sheltered Colorado canyon. Its probable age was one hundred eighteen years. The base had roughened into the bark form that is characteristic of the cottonwood family. But over most of the trunk, and over all the limbs, the bark was white and smooth.

In a magnificent aspen forest at the southern end of Tongue Mesa, in Colorado, I found trees from twelve to twenty inches in diameter, and from sixty to one hundred feet high. There was a scattering of still larger ones, some of these being one hundred twenty feet high. Their imposing white and limbless trunks stood as if they had been marble among dark-robed towering spruces.

What a wide acquaintance our *Populus tremuloides* has with the other tree races of the earth! Living in many lands and climes, it is neighbor to nearly a thousand other tribes of trees. It lives among a few tree people with whom it has nothing in common. But it enjoys a close acquaintance with the dignified oak, the staid ash, the serene maple, and the stately elm. In a number of localities it comes in contact with the noble white pine, the good cottonwood, and that other pioneer, the lodgepole pine. In numerous scenes it is intimately associated with a number of fellow folk who have somewhat similar traits, manners, and tastes. The alder is often by its side; in the north woods the aspen and the paper birch together fringe a thousand streams; and almost everywhere with *Populus tremuloides* is at least one member of the willow family.

Among the local names for our quaking aspen are poplar, golden aspen, and quaking asp. The male and female flowers grow upon separate trees. The seeds mature in tiny pods that hang in clusters, and are released in the springtime before the tree is in leaf. The bark commonly is white or greenish-white; but sometimes it is gray or yellow-brown.

Black bear cubs appear to favor the aspen for climbing practice or gymnastic pranks. The soft bark affords secure clawholds. Once I saw four cubs in the same aspen. A contusion or excrescent scar usually grows over cuts or deep scratches that are made in the bark. This relief growth lasts for years. Hundreds of aspens carry bear-claw and other markings, some of which may have been made a generation ago.

The arms of the aspen hold and rock many a baby bird. Robins build in the forks of the trunks

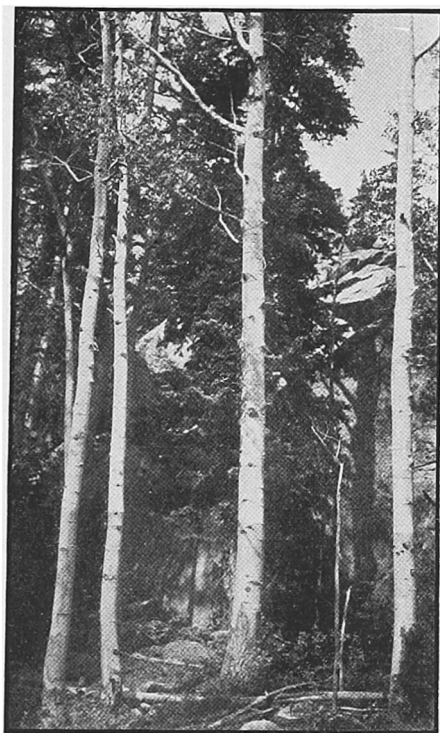
or the limbs; orioles swing their woven hangnests to the twigs. Several kinds of woodpeckers carve in the trunk a home with wooden walls. Bluebirds, wrens, nut-hatches, and chickadees adopt holes that have been used and abandoned by woodpeckers, and in rotten limbs or trunks make excavations of their own. These are used both for storm shelters and for nesting places.

For the nursing of trees and the cradling of birds, the aspen appears without a rival.

The aspen and the beaver are in a strange manner closely associated. They are widely distributed throughout the northern hemisphere side by side. The restless aspen is a water-loving tree and commonly enlivens the shore of every stream and pond in which the deliberate beaver lives. The quickness with which the green aspen sinks is a distinct convenience to the beaver, who each autumn gathers a winter food supply of it, which he piles in deep water on the bottom of the pond. The bark of the aspen is the staff of life in Beaver World, and aspen wood is the main material in thousands of beaver houses and dams. The wood is soft and easily gnawed. When an aspen is felled, the roots or the stump commonly sprout quickly and grow rapidly. Thus, again and again the beaver may harvest the same woodland.

Aspen wood has many uses. Light and free from splinters, it was much worn by ancient warriors as a buckler. A hot, quick, clean fire-producer, it was the prize fuel of pioneers in many States. Even when green its wood will burn with a little encouragement. Do you know the pungent smell of green aspen smoke, or the primeval scenes awakened in the imagination by its presence?

Freshness, cheerfulness, and beauty are ever with the aspen. During the changing days of spring, the tree is enriched and refined with delicate coloring. Catkins come and pass through sepia, pink, and silver; the shining buds, with touches of red, unfold dainty leaves of softest, whitest flannel. These leaves change through rose and olive, and at last, in the summer sun, show in pure



THE BARE-LEGGED ASPEN



AN ASPEN GARDEN

shining green above and yellow green beneath. The trunk and limbs of the leafless tree are full of grace and beauty; young leaves add a childlike charm; and gowned in autumn gold, the aspen is a magic tree, a part of fairyland. With golden leaves, it is classic in the sunshine, and in the moonlight its figure is spectral and mysterious.

Owing to the delicate poise of the aspen leaf, a mere breath sets it trembling. The leaf is roughly triangular, with serrated edges, and is held at the end of a long, slender springlike stem which barely supports it. This stem is flattened at right angles to the leaf, which, thus delicately suspended in the unrelenting air, is almost continuously quivering. In a moderate breeze, the vibrations andappings of the tremulous leaves reproduce the rippling melody of the brook. In a wind, the leaves are as laughing waters. In the sunshine, they glance light like a rivulet. During a quiet night with the moon, they play hide and seek, vanish and gleam, whisper and listen, in the romantic light.

Through the ages the activities of aspen leaves appear to have attracted the attention of mankind. All the old myths and legends concerning these merry leaves were burdened with fear, grief, and regret. Tennyson gives us this backward glimpse:

"But here will sigh thy alder tree,
And here thine aspen shiver;
And here by these will hum the bee,
Forever and forever."

But nowadays, every one appears to catch the hopeful spirit of the aspen.

Aspens are youth, eternal youth. No other trees known to me so completely express the elasticity, the bounding, boundless hopefulness of youth. Aspens are young throughout their life. Never are they serious. They are romping children; their bare legs, their mud- and water-wading habits, their dancing out of one thing into another, are all charmingly and faithfully childlike. Aspens believe in fairies—they are a part of Never-Never-Land, and they never will grow up!



MEDAL FOR SCULPTURE TO DANIEL C. FRENCH

At a Joint Meeting of the American Academy and National Institute of Arts and Letters held in New York, January 26, 1918, this honor medal for sculpture was decreed to Daniel C. French. The medal comes round to sculptors every seven years. The last time it was given posthumously to Augustus Saint-Gaudens, then deceased.